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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,506	07/25/2003	Hardayal Singh Gill	HIT1P036/HSJ9-2003-0164US	6933
28875	7590	07/28/2006	EXAMINER	
Zilka-Kotab, PC P.O. BOX 721120 SAN JOSE, CA 95172-1120			MILLER, BRIAN E	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,506	GILL, HARDAYAL SINGH	
	Examiner	Art Unit	
	Brian E. Miller	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 4-6,8,19-22 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 1-28 are pending.

Election/Restrictions

1. Applicant's election without traverse of species (1), FIG. 7, in the reply filed on 5/15/06 is acknowledged.
2. Claims 4-6, 8, 19-22, 28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/15/06.

Drawings

3. Figures 1A, 1B, 2A, 2B, 3-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 12-15, 26-27 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent

form, or rewrite the claim(s) in independent form. There is no additional structure to distinguish the recited type of head, thus the claim(s) is not considered to further limit the parent claim.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9-11, 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (a) Claims 9-11 (and similarly for claims 23-25) the phrases “towards opposite track edges” (re claim 9) and “towards each of the compression layers” (re claims 10-11) are misdescriptive, as it is not readily apparent what encompasses “towards”. The term “towards” is a ambiguous direction and would not describe the invention properly. It is suggested that the word “adjacent” or “abutting” be utilized instead.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 7-18, 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinarbasi (US 6,460,243) in view of Gill (US 6219208). (As per claims 1 & 16) Pinarbasi discloses a magnetic head, as shown in at least FIG. 11, comprising: a SV sensor 130 and a pair

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of compression layers 142 positioned towards opposite track edges of the sensor, the compression layers providing compressive stress to the sensor (see col. 2, lines 44-49); (as per claims 2 & 17) wherein the compression layers are constructed of metal, e.g., rhodium (Rh); (as per claims 3 & 18) wherein the compression layers are constructed of rhodium; (as per claim 7) wherein the compression layers are positioned substantially outside the track edges of the sensor; (as per claims 9 & 23) further comprising hard bias layers 144 positioned towards opposite track edges of the sensor, the compression layers being positioned above the hard bias layers (as seen in the FIG.); (as per claims 10 & 24) further comprising shield layers S1, S2 positioned above and below the sensor, and at least one electrically insulative layer G1, G2 positioned towards each of the compression layers for preventing conduction of electricity through the compression layers from one shield layer to the other shield layer; (as per claims 11 & 25) further comprising shield layers S1, S2 positioned above and below the sensor, and at least one electrically insulative layer G1, G2 positioned towards each of the compression layers for preventing conduction of electricity through the compression layers from the sensor to one of the shield layers.

Pinarbasi, however, is expressly silent as to the SV sensor employing an AP pinned layer structure, as commonly known in the art, however, Gill discloses in FIG. 14, film "302" encompass the well known structure, which includes at least two pinned layers 306, 308, having magnetic moments that are self-pinned antiparallel to each other, the pinned layers being separated by an AP coupling layer 304. From this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the AP pinned structure as described above into the SV sensor of Pinarbasi, as taught by Gill. The

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motivation would have been: by strong antiparallel coupling between the first and second antiparallel pinned layers 306 and 308 the magnetic moment 312 of the second AP pinned layer is pinned antiparallel to the magnetic moment 310. Accordingly, the magnetic moments 218 and 312 are in phase for enabling spin valve effects that are additive on each side of the free layer structure 202, providing a more responsive MR head.

With respect to claims 12-15 (and similarly for claims 26-27) reference to “wherein the head forms part of...” is considered to not add patentable weight to the claims because no additional structure has been set forth which would distinguish between these different MR head types and thus these claims are rejected as Pinarbasi is considered to encompass these types.

Conclusion


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Including US Patent Publication to Lahiri et al (2004/0100738) and US Patent to Pinarbasi (6,219,207) which are cited to show metal compression layers on opposite edges of the SV sensor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Brian E. Miller
Primary Examiner
Art Unit 2627

BEM
July 24, 2006